Welcome to the Scientific Council Dinner where we will present the 2023 Klerman & Freedman Awards.

The Klerman & Freedman Prizes recognize exceptional clinical and basic research conducted by Brain & Behavior Research Foundation Young Investigator Grantees. The prizewinners are selected by committees of the Foundation’s Scientific Council, led by its founding President, Dr. Herbert Pardes.

The BBRF Scientific Council reviews and selects the most promising research ideas with the greatest potential to lead to further breakthroughs in brain and behavior research. We thank our Council for their time, expertise, and judgement to support the mission of the Foundation.

Tonight, we will recognize and honor the exceptional work of five outstanding young researchers. BBRF’s Young Investigator Grant program supports early-career scientists as they gather pilot data and “proof of concept” for their innovative clinical and basic research.

Following our dinner, we will engage in an exciting discussion on the state of research and psychiatry with select members of our Scientific Council.

The Brain & Behavior Research Foundation continues to support the most promising ideas in brain research across disciplines, institutions, and continents. We hope that as you learn about the achievements of this evening’s honorees, they will inspire your continued support of BBRF’s vision of a future in which all people living with a psychiatric condition lead full, productive, and happy lives.

Sincerely,

Jeffrey Borenstein, M.D.
President & CEO
ANNUAL KLERMAN PRIZE FOR EXCEPTIONAL CLINICAL RESEARCH

Danella M. Hafeman, M.D., Ph.D.
University of Pittsburgh School of Medicine

HONORABLE MENTION

Linden Parkes, Ph.D.
Rutgers University & University of Pennsylvania

ANNUAL FREEDMAN PRIZE FOR EXCEPTIONAL BASIC RESEARCH

Ritchie Chen, Ph.D.
University of California, San Francisco

HONORABLE MENTIONS

Madeline Andrews, Ph.D.
Arizona State University

Neir Eshel, M.D., Ph.D.
Stanford University

About the Prizes
The Klerman & Freedman Prizes pay tribute to Drs. Gerald L. Klerman and Daniel X. Freedman, whose legacies as researchers, teachers, physicians and administrators have indelibly influenced neuropsychiatry. Their outstanding contributions to the field of brain and behavior research continue to inspire scientists who knew them, as well as those who are just entering the field.
1995 Dr. Rajiv Tandon
1996 Dr. Hans C. Brieter
1997 Dr. Schahram Akbarian
1998 Dr. Michael Maes
1999 Dr. Andrew L. Stoll
2000 Dr. Susan K. Schultz
2001 Dr. Cameron S. Carter
Dr. Josephy R. Hibbeln
Dr. Sarah H. Lisanby
Dr. Perry F. Renshaw
2002 Dr. E. Sherwood Brown
Dr. John W. Newcomer
2003 Dr. Ramin Mojtabai
2004 Dr. Helen Link Egger
Dr. Joan L. Luby
2005 Dr. Melissa P. DelBello
2006 Dr. Hilary P. Blumberg
2007 Dr. Beng-Choon Ho
2008 Dr. Gabriel Alejandro de Erausquin
2009 Dr. Alina Suris
2010 Dr. Daniel P. Dickstein
Dr. Mani N. Pavuluri
2011 Dr. Chadi Calarge
2012 Dr. Jess G. Fiedorowicz
2013 Dr. James McPartland
2014 Dr. Denis Jabaudon
2015 Dr. Alan Anticevic
2016 Dr Katie McLaughlin
2017 Dr. Jennifer C. Felger
2018 Dr. Albert R. Powers III
2019 Dr. Nolan R. Williams
2020 Dr. Ellen Lee
2021 Dr. Nicholas L. Balderston
2022 Dr. Shan H. Siddiqi

1995 Dr. Elizabeth D. Abercrombie
Dr. Kim T. Mueser
Dr. Jose V. Pardo
1996 Dr. Steven E. Arnold
Dr. Helen S. Mayberg
1997 Dr. Andrew J. Francis
Dr. Katharine A. Phillips
1998 Dr. Cameron S. Carter
Dr. Mark R. Serper
1999 Dr. Shitij Kapur
Dr. Brian F. O’Donnell
2000 Dr. Mark S. George
Dr. Sohee Park
2002 Dr. Stephan Heckers
Dr. Anissa Abi Dargham
Dr. Jeffrey H. Meyer
Dr. Yvette I. Sheline
2003 Dr. Catherine Monk
Dr. Gerard Sanacora
2005 Dr. Anne L. Glowinski
Dr. Gerard Sanacora
2006 Dr. Stephan Eliez
Dr. Jordan W. Smoller
2007 Dr. Yuval Y. Neria
Dr. Carolyn M. Salafia
2011 Dr. Brian M. D’Onofrio
Dr. Jennifer S. Silk
2012 Dr. Johanne Renaud
Dr. Manpreet Kaur Singh
2013 Dr. Daniel Mueller
Dr. Andrea Danese
2014 Dr. Mazen A. Kheirbek
Dr. Bo Li
2015 Dr. Chadi Abdallah
Dr. Carrie J. McAdams
2016 Dr. Erin C. Dunn
Dr. Avram Holmes
2017 Dr. Danai Dima
Dr. Carolyn Rodriguez
2018 Dr. Timothy Y. Mariano
2019 Dr. Bo Cao
Dr. Sarah A. O. Gray
2020 Dr. Soonjo Hwang
Dr. Hadar Ben-Yoav
2021 Dr. Hengyi Cao
Dr. Nolan R. Williams
2022 Dr. Rachel Emma Lean
Dr. Sunny Xiaojing Tang
The Klerman Prize, established in 1994 by Myrna M. Weissman, Ph.D., in memory of her late husband, Gerald L. Klerman, M.D., honors exceptional clinical research by a BBRF Young Investigator Grantee. A distinguished psychiatric researcher and mentor at the National Institute of Mental Health (NIMH), Dr. Klerman pioneered studies of psychotropic medications and developed and tested interpersonal psychotherapy. Dr. Weissman serves on the BBRF Scientific Council.

Responsible for selecting the Klerman Prizewinners, the following BBRF Scientific Council members make up the Selection Committee:

**CHAIR**
Karen Dineen Wagner, M.D., Ph.D.
University of Texas Medical Branch
in Galveston

**MEMBERS**
Martin B. Keller, M.D.
Brown University

Nina R. Schooler, Ph.D.
State University of New York,
Downstate Medical Center
Dr. Hafeman’s research focuses on youth diagnosed with or who are at risk for bipolar disorder. She is interested in understanding clinical and neural mechanisms of risk and resilience in these youth, with the goal of preventing progression of mood disorders in this vulnerable population. Much of her recent work has focused on predictors of bipolar disorder in youth at familial risk, working with BBRF Prizewinner Dr. Boris Birmaher. In two papers describing predictors of bipolar disorder in youth at familial risk for bipolar disorder, they described dimensional predictors (e.g., anxiety/depression, mood lability, and subthreshold manic symptomatology) of disorder in school-age and preschool youth. These prospective analyses have important clinical and research implications, describing a group of youth at ultra-high risk for the development of bipolar disorder. Dr. Hafeman hopes to use these data to construct a risk calculator for the development of bipolar disorder in at-risk youth, facilitating clinically relevant prediction at the individual level. She also aims to assess relationships between polygenic risk score and bipolar disorder onset in these at-risk youth.

“Winning the Klerman Prize is a tremendous honor, and I am humbled to receive this prestigious award amongst an amazingly talented pool. I am also deeply grateful to BBRF for the support to take a risk on an innovative idea, as well as the opportunity for this recognition—it is incredibly meaningful at this point in my career.”
Dr. Parkes is a computational neuroscientist who seeks to uncover pathways that track the emergence of psychopathology. He approaches this goal from a neurobiological perspective by studying how complex neural systems shape behavior and cognition, and how dysfunction in these systems predicts psychopathology. His research addresses specific questions relevant to this intersection of psychiatry and brain sciences: How do we improve the predictive models that link brain structure, function, and disease? How do we tease apart the brain markers that are specific to certain axes of psychiatric disorders from those that are general across disorders? How do we integrate our understanding of psychopathology with underlying neurodevelopmental processes to understand the root causes of mental illness?

Dr. Parkes addresses these and related questions through the analysis of cross-sectional and longitudinal neuroimaging data that is probed with computational network analysis and predictive machine learning. His ultimate goal is to develop a set of robust, reliable, and predictive biomarkers that can be used in clinical trials to assess treatment stratification and response.

“I’m incredibly grateful to have received an honorable mention for the Klerman Prize. It is a privilege to be mentioned amongst my peers for this award, and I am grateful for all the support that BBRF has provided me.”
<table>
<thead>
<tr>
<th>Year</th>
<th>Honorable Mentions</th>
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| 1998 | Dr. Eric E. Turner  
Dr. Elizabeth Van Bockstaele                                                |
| 1999 | Dr. Emmanuel N. Pothis  
Dr. Laurence H. Tecott                                                       |
| 2000 | Dr. Wayne Drevets  
Dr. Bernice E. Morrow                                                         |
| 2001 | Dr. Michael J. Caterina  
Dr. Aurelio A. Galli                                                              |
| 2002 | Dr. Michael W. Quick  
Dr. Fu-Ming Zhou                                                               |
| 2003 | Dr. William A. Carlezon  
Dr. Gleb P. Shumyatsky                                                      |
| 2004 | Dr. Michael D. Ehlers  
Dr. Sheena Ann Josselyn                                                  |
| 2005 | Dr. Steven A. Thomas  
Dr. Fang Liu                                                           |
| 2006 | Dr. Luca Santarelli  
Dr. Luca Santarelli                                                             |
| 2007 | Dr. M. Margarita Behrens  
Dr. Akira Sawa                                                                 |
| 2008 | Dr. Jean-Martin Beaulieu  
Dr. Colleen Ann McClung                                                          |
| 2009 | Dr. Vincent P. Ferrera  
Dr. Benjamin Philpot                                                           |
| 2010 | Dr. Alberto Bacci  
Dr. Andrew A. Pieper                                                       |
| 2011 | Dr. Marie Carlen  
Dr. Genevieve Konopka                                                            |
| 2012 | Dr. Carmen Andreescu  
Dr. David Foster                                                                |
| 2013 | Dr. Elena Ivleva  
Dr. Aristotle N. Voineskos                                                      |
| 2014 | Dr. Kristen J. Breenand  
Dr. Nandakumar Narayanan                                                       |
| 2015 | Dr. Conor Liston  
Dr. Margaret Cho                                                                |
| 2016 | Dr. Marcelo de Oliveiera Dietrich  
Dr. Eline B. Robinson                                                             |
| 2017 | Dr. Christina Gremsel  
Dr. Ueli Rutishauser                                                            |
| 2018 | Dr. Erin S. Calipari  
Dr. Dorothy Schafer                                                               |
| 2019 | Dr. Kevin Beier  
Dr. Lorna A. Farrelly                                                            |
| 2020 | Dr. Denise Cai  
Dr. Tomasz J. Nowakowski                                                        |
| 2021 | Dr. Chandramouli Chandrasekaran  
Dr. Mohsen Jamali                                                                  |
FREEDMAN PRIZE

The Freedman Prize honors the late Daniel X. Freedman, M.D., a pioneer in biological psychiatry and psychopharmacology and a founding member of the Brain & Behavior Research Foundation Scientific Council. It is awarded to a BBRF Young Investigator Grantee for exceptional basic research.

FREEDMAN PRIZE SELECTION COMMITTEE

Responsible for selecting the Freedman Prizewinners, the following BBRF Scientific Council members make up the Selection Committee:

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Vanderbilt University

MEMBERS
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McLean Hospital
Harvard Medical School

Cecilia Flores, Ph.D.
McGill University

Peter W. Kalivas, Ph.D.
Medical University of South Carolina

Eric J. Nestler, M.D., Ph.D.
Icahn School of Medicine at Mount Sinai

Marina R. Picciotto, Ph.D.
Yale University
Yale School of Medicine
Visceral sensations, such as heart palpitations, hunger pangs, and pain, profoundly shape our mental state and behavior. For example, irregular heart rhythms have been postulated to create the experience of fear while generalized anxiety and panic disorders are thought to be related to dysregulation of interoceptive monitoring by the brain. Physiological theories of emotion, proposed over a century ago, have suggested that these visceral sensations are crucial in creating an emotional experience. However, such a bottom-up construction of an emotional state has been impossible to causally investigate in a controlled and temporally precise manner. Dr. Chen is inventing technologies for modulating affective and social behaviors, opening up new possibilities for treating mental health disorders. He has developed a cutting-edge technology that can non-invasively control cells throughout the mammalian body, and which could revolutionize our understanding and treatment of neurological and psychiatric conditions. Specifically, he has identified the ultrasensitive and red-shifted Channelrhodopsin ChRmine for non-invasive optogenetic control of electroactive cells across the brain and body. This technology enables transcranial optogenetic control of neuromodulator centers in the mouse brain without the need for intracranial surgery. Using this non-invasive approach, he was able to target serotoninergic neurons in the raphe nucleus to enhance pro-social behavior in wild-type mice. He has since expanded this work to the heart, highlighting the key causal roles that bodily feedback can play in influencing emotional behavioral states.

“I am grateful for the Freedman Prize, an unexpected and important milestone in my career. This award will remind me of the power of engineering technologies in driving new approaches for basic neuroscience research.”
Madeline Andrews, Ph.D.
Arizona State University

2020 BBRF Young Investigator

Dr. Andrews is a developmental neuroscientist who uses human cell cultures to explore the gene programs and cell signals that are essential for how brain cells grow, change shape, and become organized. Her research goal is to identify the molecular underpinnings of neurological disorders that impact human mental health. Toward this goal, she works to evaluate the neurodevelopmental mechanisms establishing cerebral cortex cell fate and organization, which are imperative for neurological function, and how these programs are disrupted in autism. She has performed studies interrogating dysfunction of the mTOR signaling pathway which occurs in co-morbid ‘mTORopathies’ including autism, Fragile X syndrome, and focal cortical dysplasia. mTOR is a protein complex that directs an intracellular signaling cascade to regulate dynamic cellular functions. The capacity to modulate mTOR during neurodevelopment also makes it a tractable, druggable target for therapeutics. Her research highlights the need for appropriate balance of mTOR signaling during human brain development where dysregulation in neuropsychiatric disorders impacts the fundamental shape, motility, and behavior of cells. Dr. Andrews’ observations highlight unexpected, but essential, cell biological features that mTORopathies disrupt, including cell morphology, which has significant implications for cortical disorganization and alterations in connectivity.

“Receiving the Freedman Prize Honorable Mention is truly an honor. To have the support of such a fantastic philanthropic organization, whose goals align with mine, is extremely rewarding. I feel very grateful for my scientific research to be recognized in this way.”
Dr. Eshel’s research focuses on the two neuromodulators that form the basis for most existing psychiatric treatments: dopamine and serotonin. By uncovering the functional diversity within these systems, he hopes his findings will lead to novel, more targeted treatments for symptoms such as irritability and aggression. The work could, for example, suggest ways to combine drugs that interact with specific dopamine and serotonin receptors. Dr. Eshel’s findings may contribute to development of novel treatments that harness the molecular distinctions between target regions, e.g., by prompting prospective trials of serotonergic agents specific to forebrain vs. hindbrain projections, or by guiding clinicians who wish to combine serotonergic and dopaminergic agents for patients suffering from high levels of irritability and aggression. His studies may also inform the use of noninvasive brain stimulation techniques such as transcranial magnetic stimulation that are capable of targeting specific regions based on their functional connectivity to cortical stimulation sites.

“At a moment in my career when I am just starting to branch off from my mentors and build my own independent research group, this recognition is such a welcome surprise. It encourages me to keep following the science and taking risks!”
184 Scientific Council Members
50 Members of the National Academy of Medicine
42 Chairs of Psychiatry & Neuroscience Departments
16 National Institute of Health Chiefs & Directors
7 Members of the National Academy of Sciences
3 Recipients of the National Medal of Science
2 Directors of the National Institute of Mental Health
1 Nobel Prize Winner

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- Current Donors who increase their 2023 contribution (the increase amount is matched)

As you plan your 2023 charitable donations, we hope you will help us successfully reach this generous $1 Million Challenge Match. The cutting-edge mental health breakthroughs of BBRF grantees depend on you, so please consider making a gift this year to advance our vital research.

This match is made possible by two very generous family foundations that are passionate about BBRF’s vital mission.
THE BRAIN & BEHAVIOR RESEARCH FOUNDATION is committed to alleviating the suffering of mental illness by awarding grants that will lead to advances and breakthroughs in scientific research. The Foundation funds the most innovative ideas in neuroscience and psychiatry to better understand the causes and develop new ways to treat brain and behavior disorders.

Since 1987, the Foundation has awarded more than $440 million to fund more than 5,300 leading scientists around the world. This has led to over $4 billion in additional funding for these scientists. 100% of every dollar donated for research is invested in our research grants. Our operating expenses are covered by separate foundation grants.

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For more than 35 years the BBRF has fostered new research pathways and transformative breakthroughs.

Our 70,000 donors have joined together in the great challenge of modern medical science — overcoming mental illness.

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